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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,089	08/20/2003	Joseph Shapira	26668	4956

7590 03/16/2005

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EXAMINER

ZEWDU, MELESS NMN

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/644,089	SHAPIRA, JOSEPH	
	<b>Examiner</b>	<b>Art Unit</b>	
	Meless N Zewdu	2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5-35 is/are pending in the application.
- 4a) Of the above claim(s) 5-27 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28 and 29 is/are allowed.
- 6) ☒ Claim(s) 30-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This action is in response to the communication filed on 11/15/04.
2. Claims 5-27 have been withdrawn as non-elected group, in response to an election/restriction requirement provided earlier.
3. Claims 28-35 are pending in this action as elected group.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu et al. (US 5,890,055) in view of Runyon (US 5,966,102).

**As per claim 30:** Chu et al. discloses a method for repeating a randomly polarized signal (see abstract; fig. 2; col. 1, line 64-col. 2, line 21). But, Chu et al. does not explicitly teach about steps of receiving said signal at a first and a second states, thereby providing a first portion of said signal, received at said first polarization state and a second portion of said signal, received at said second polarization state; and transmitting said first portion according to said first polarization state and said second portion according to said second polarization state, as claimed by applicant. However,

in a related field of endeavor, Runyon et al. teaches about a planar array antenna having radiating elements featured by dual simultaneous polarized states and controlled by a central polarization control, wherein a first and a second polarized states of a signal are received by two antennas for transmission at same polarization state (see entire document, particularly, abstract; col. 3, line 17-col. 4, line 28; col. 21, line 63-col. 22, line 26). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Chu et al.'s reference with that of Runyon et al. for the advantage of having a planar antenna having wave radiators exhibiting dual polarization states (see col. 1, lines 5-8).

**As per claim 31:** the method according to claim 30, further comprising the step of amplifying said first and second portions, before said step of transmitting reads on '102 (see fig. 12, elements 87a and 87b; col.17, lines 13-45)..

**As per claim 32:** the method according to claim 30, wherein said first polarization state is orthogonal to said second polarization state reads on '102 (see col. 2, lines 45-63).

Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu et al. in view of Reudink (US 5,648,968)..

**As per claim 33:** Chu discloses a repeating device comprising:

a donor side transceiver section (see fig. 2, elements 100-103). The repeaters of the prior art include a donor side transceiver for communication with the HUB.

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a subscriber side transceiver section (see (fig. 2, elements 100-103). The repeaters of the prior art include a subscriber side transceiver for communication with the indicated mobile/wireless units.

amplification means connected between said donor side transceiver section and said subscriber side transceiver section (see fig. 3, elements 303 and 307; col. 5, line 13-col. 6, line 9). But, Chu et al. does not explicitly teach about --- said donor side including a plurality of donor side transceiver elements, transmitting outgoing signals in a first non-correlated manner, and said subscriber side including a plurality of subscriber side transceiver elements, receiving incoming signals in a second non-correlated manner, as claimed by applicant. However, in a related field of endeavor, Reudink teaches about a base station (which is functionally similar to a repeater) that includes a plurality of antenna elements for transmitting outgoing signals uncorrelated and receiving incoming signals also uncorrelated (see col. 3, lines 28-45; col. 4, lines 26-41). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching of Chu et al. with the teaching of Reudink for the advantage of using combined antennas for data transmission (see col. 1, lines 19-22).

**As per claim 34:** the repeater according to claim 33, wherein at least one of said first non-correlated manner and said second non-correlated manner incorporates space diversity reads on '968 (see col. 3, lines 29-45). Still, spacing is required though less than the previously recognized prior art.

**As per claim 35:** the repeater according to claim 33, wherein at least one of said first non-correlated manner and said second non-correlated manner incorporates polarization diversity reads on '968 (see col. 6, lines 47-59).

***Allowable Subject Matter***

Claims 28 and 29 are allowed.

The following is an examiner's statement of reasons for allowance:

**As per claims 28 and 29:** the claims are directed to a repeater device in a wireless communication. The prior art of record does not teach or fairly suggest the embodiment of a repeater that utilizes two diversity antennas both on the side of the donor and mobile transceivers' side and wherein the two diversity antennas on both said sides are orthogonal polarized and having an amplifier connected to each polarized antennas, as recited in claims 28 and 29.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meless N Zewdu whose telephone number is (703) 306-5418. The examiner can normally be reached on 8:30 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (703) 308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Meless Zewdu  
Examiner

M. Z.

11 March 2005

  
WILLIAM TROST  
SUPERVISORY PATENT EXAMINER  
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